



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,758	09/12/2003	Yu-Fang Wang	048747-0203	8155
23392	7590	02/10/2005	EXAMINER	
FOLEY & LARDNER 2029 CENTURY PARK EAST SUITE 3500 LOS ANGELES, CA 90067			KIM, RICHARD H	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 02/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/661,758

**Applicant(s)**

WANG, YU-FANG

**Examiner**

Richard H Kim

**Art Unit**

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. ____.  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____.   | 6) <input type="checkbox"/> Other: ____.                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 6, 7, 11-15, 17, 18, 22 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Sato et al. (US 5,919,532).

Referring to claim 1, Sato et al. discloses a method comprising providing a substrate (Fig. 2, ref. 1); forming respective gate lines and signal lines on the substrate (Fig. 2, ref. 15, 16), wherein the plurality of gate lines and signal lines define respective pixel areas (Fig. 2, ref. 12); forming a plurality of switching elements electrically connected to the signal lines and gate lines for the pixel areas (Fig. 1, ref. 3); forming a protruding pattern on the gate line, the signal lines and the switching elements to define respective color filter unit areas (Fig. 1, 2, ref. 11; col. 24, lines 16-20); applying colored resin to form respective color filter units in the color filter unit areas defined by the protruding portion (Fig. 5G); and forming respective pixel electrodes on the respective color filter units (Fig. 4, ref. 12).

Referring to claim 12, Sato et al. discloses a device comprising a substrate (Fig. 2, ref. 1); a pixel matrix comprising a plurality of gate lines and signal lines formed on the substrate (Fig. 2, ref. 15, 16), wherein the gate lines and signal lines define respective pixel areas (Fig. 2, ref. 12); respective switching elements for each of the pixel areas electrically connected to the signal lines and gate lines (Fig. 1, ref. 3); a protruding pattern formed on the gate lines, the signal lines

Art Unit: 2871

and the switching elements and defining respective color filter unit areas (Fig. 1, ref. 11); respective color filter units formed in the respective color filter unit areas (Fig. 4, ref. 13); and respective color pixel electrodes formed on the respective color filter units (Fig. 4, ref. 12).

Referring to claims 2 and 13, Sato et al. discloses that the substrate is an insulator (Fig. 4, ref. 1).

Referring to claim 3 and 14, Sato et al. discloses that the switching elements are thin film transistors (col. 24, lines 12).

Referring to claim 4 and 15, Sato et al. discloses that the protruding pattern is made of organic material (col. 24, line 13).

Referring to claims 6 and 17, Sato et al. discloses that the protruding pattern comprises respective contact holes exposing parts of corresponding switching elements (Fig. 2, ref. 11').

Referring to claims 7 and 18, Sato et al. discloses the method and device wherein the pixel electrodes electrically connect to corresponding switching element via the contact holes (Fig. 2, ref. 12).

Referring to claims 11 and 22, Sato et al. discloses that the colored resin is applied by inkjet printing (Fig. 5G).

Referring to claim 23, Sato et al. discloses a gate electrode extending from a gate line (Fig. 2, ref. 5); a gate insulating layer formed on the gate electrodes (Fig. 2, ref. 6); and a pair of source and drain electrodes formed on the gate insulating layer above the gate electrode to form a thin film transistor (Fig. 2, ref. 9a, 9b).

*Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8, 9, 10 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (US 5,919,532).

Referring to claims 8 and 19, Sato et al. discloses the device and method previously recited, but fails to disclose that the protruding pattern is patterned by photolithography using a photoresist material.

It would have been obvious to one having ordinary skill in the art at the time the invention was made for the protruding pattern to be patterned by photolithography using a photoresist material since photolithography is well known in the art an efficient and precise etching technique.

Referring to claims 9, 10, 20 and 21, Sato et al. discloses the device and method previously recited, but fails to disclose that the gate lines and signal lines are made of opaque conductive materials and the pixel electrodes are substantially made of transparent conductive materials.

It would have been obvious to one having ordinary skill in the art at the time the invention was made for the gate lines and signal lines to be made of opaque conductive materials and the pixel electrodes to be substantially made of transparent conductive materials since using

Art Unit: 2871

such materials for the gate lines, signal lines and pixel electrodes are well known in the art to produce a high quality display with good conductive properties.

5. Claims 5 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. in view of Takizawa et al. (US 6,573,964 B1).

Referring to claims 5 and 16, Sato et al. discloses the device and method previously recited. Sato et al. further discloses that the protruding pattern is made of carbon black (col. 6, lines 5-6). However, the reference does not disclose that the protruding pattern further includes polyimide and novolak resin.

Takizawa et al. discloses an insulating layer made of novolak and polyimide (col. 11, lines 53-64).

It would have been obvious to one having ordinary skill in the art at the time the invention was made for the protruding pattern to further include polyimide and novolak resin since one would be motivated to utilize an effective material capable of dividing two different areas of a liquid crystal display (abstract).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard H Kim whose telephone number is (571)272-2294. The examiner can normally be reached on 9:00-6:30 M-F.

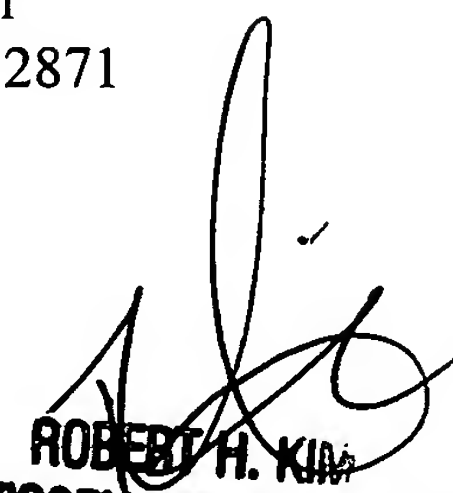
Art Unit: 2871

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H Kim can be reached on (571)272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Richard H Kim  
Examiner  
Art Unit 2871

RHK

  
**ROBERT H. KIM**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER**